

Sustainable Fisheries Livelihoods Programme
**REVIEW OF LITERATURE ON FISHING
MIGRATIONS IN WEST AFRICA – FROM A
DEMOGRAPHIC PERSPECTIVE**

by

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(31 August 2005)

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Acknowledgements:

I would like to thank the following people:

-

Caroline Garaway for explaining much fishing terminology

-

Eyolf Jul-Larsen for making available Excel files of data from Mali and taking the time to explain them to me

-

Sophie Des Clers for suggesting websites, literature and providing me with contacts in Senegal and Mauritania

-

Abdou Daim Dia for sending me unpublished reports

-

Holly Reed of Brown University for arranging for me to access the raw data from their Ghanaian migration study and particular thanks to Catherine Stiff for sending me details of the data set and formatting it so that I could use it.

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Review of Literature on Fishing Migrations in West Africa – from a Demographic Perspective

1. Introduction

The fishing literature on West Africa continuously emphasises the role of migration and movement within the production system, whether it be coastal or inland fisheries; the demographic literature points out that, along with the South Africans, West Africans as a whole are an extremely mobile population with 1/3 individuals no longer living in their village of birth (de Haan in Black 2004) and internal migration reaching as high as 50% in Ghana. From this coincidence we would expect a substantial demographic literature on migrations within fisheries, quantifying the phenomenon, looking for determinants and consequences. Yet, fishing, fishing communities and fishermen are rarely, if ever, mentioned in the demographic literature and most of the fishing literature describes fishing migrations in ways that omit major issues that demographers would usually consider fundamental to analysis and understanding.

This review will examine literature from both sides, document what has and has not been studied in recent years, try to identify why the two literature bodies are so far apart and make some recommendations for future studies of fishing migrations in West Africa.

Literature on fishing migrations

In the early 1990s there was considerable interest in migration within West African fishing communities. This manifested itself in two major publications. The first, emerging from an FAO workshop on Fishermen's Migrations in West Africa held in Ghana in 1990 (Haakonsen & Diaw 1991) is a substantial report documenting what was known about both historical and contemporary movements and migrations of fishermen all around the West coast from Mauritania to Angola. At the same time FAO commissioned a bibliography of literature on migration and fishing, a copy of which is in the FAO library. This bibliography contains some 1600 references dating back decades, many of which feature material on fishing and migration only peripherally.

A second major work (Chauveau, Jul-Larsen & Chaboud, 2000) emerged from a workshop held in Bergen in 1993 and brought together a substantial number of the contributors to the FAO workshop. The papers in 'Les pêches piroguières en Afrique de l'Ouest' are more analytical than the FAO papers (which were largely descriptive) and the migrations, which are an integral part of life for each population covered, are analysed by these anthropologists, historians and geographers mainly from the institutional perspective focusing on inter-community relations and modes of integration and conflict resolution between different communities, the social and economic organisation of fishing crews and their canoes alongside a consideration of issues of fluid identities, rather than a more demographic perspective of the patterns, flows, rates and stocks of migration.

Here I do not want to repeat the historical accounts of fishermen's migrations, of who went where and when, throughout West Africa. These are very adequately documented in the FAO publication, in 'Les pêches piroguières en Afrique de l'Ouest' and many others. This substantial body of literature covering a range of countries and fishing populations demonstrates several key characteristics of west African fishing migrations:

1. Movement and migration are an integral part of most west African fisheries and fishing populations, be these inland, coastal or maritime fishing
2. These movements take a vast variety of forms and are not stable over time, responding rapidly to changing political, economic and ecological contexts.
3. Initially most populations originally migrated in response to the movements of fish, but both motives for migration and patterns of migration have become increasingly diverse in recent decades.
4. There are diverging opinions about whether these movements are primarily stimulated by push factors or pull factors – although the general consensus is that in most situations it is the more attractive conditions in the destinations which are the major incentive for movement rather than an ecological and economic crisis in the places of origin.
5. The literature focuses almost exclusively on migrations of fishermen in order to fish. Those migrating from other economic activities to fish and those migrating out of fishing communities to do other economic activities are rarely considered, except in passing.

This document will primarily review material published since 1990 (therefore in some cases dealing with research undertaken in the 1980s) and will not reiterate facts and ideas expressed in the 1991 FAO report although relevant themes emerging from that document will be developed.

Demographic literature on Migration in West Africa

West Africa has long had a reputation as being an area of high mobility (Traoré 2003). Demographic data are only really available from the colonial period where forced migration to work on colonial projects and semi-forced migration as a consequence of the imposition of taxes to be paid in cash generated substantial internal and international migration, mainly of men. Oral history and anthropological evidence make it clear that movement for trade, war and for diverse production systems is an ancient and fundamental aspect of West African life (Cordell et al 1996, Chapman & Prothero 1983).

The importance of migration in the area was recognised by the World Bank who, in 1975, commissioned a two-part study to examine the demography and characteristics of migration in West Africa followed by an in-depth study of the

causes and consequences of migration in Ghana, Ivory Coast and Burkina Faso (then Upper Volta).

The second study was never undertaken; the first used census data from the mid 1970s to analyse internal and international migration from the nine West African countries for which there were good census data (Zachariah & Condé, 1981). The resulting volume documents the net migration flows between different countries and within countries using census data on nationality and place of birth. It establishes that at that time there were three main countries of immigration; Ivory Coast, Ghana and Senegal (Nigeria was excluded from the study) and three main countries of emigration; Mali, Togo and Burkina Faso and examines various characteristics of migrants. Most of the tables quantify the flow of migrants either in terms of absolute numbers or percentages. A few examine the characteristics of migrants but fishermen are never separated out – in Togo being subsumed into a single category with agriculture, pastoralists, hunters and forest workers and elsewhere, one presumes just into the ‘agriculture’ category although this is not specified. By depending on census data, which take a standard definition of usual resident as someone who has lived somewhere for at least six months, and exclude household members who may have been absent for more than six months, such macro studies are very likely to miss many of the migrations undertaken by fishermen – which are often shorter seasonal moves or involve complex circular itineraries which may mean that the migrants are often omitted from the census count altogether.

To an extent this volume epitomises the subsequent agenda in West African migration studies. The three main chapters are internal migration, international migration and rural-urban migration. As discussed below, these categories may be somewhat inappropriate distinctions when considering fishing migration and may contribute to the invisibility of fisher migrations in the demographic literature. The volume also establishes the theme of selectivity in migration studies – something that is not always addressed in the fishing migration literature, perhaps because it is seen as self-evident. Migration is known to be age and sex specific and in West Africa in the 1970s (as elsewhere) young adult men were most likely to migrate, especially the unmarried. International migrants are more likely to be males of working age than internal migrants or non-migrants, and within internal migrants those who move further are more likely to be young adult men. Short distance internal migrants usually have different reasons for migrating – movements are more often motivated by familial or marital reasons and thus more women and a wider age range are involved.

Despite the acknowledged intensity of internal and international migration in West Africa a search on the POPLINE database reveals that the number of publications on the issue is fairly limited despite a series of surveys undertaken in seven West African countries in the early 1990s co-ordinated by CERPOD and the Institut de Sahel (Traore 2003). These surveys used simplified migration biographies to collect data on migrations between 1988 and 1992, were nationally representative and

particularly focussed on rural-urban migration. However practically no publications seem to have emerged from them, and according to Henry et al (2005) the 'data are considered unreliable and have hardly been used'. The particular focus on rural-urban migration would, anyway, have excluded most fishing migrations. A series of surveys and studies undertaken in the 1980s in the Kayes Region of Mali by Sally Findley and others focussed largely on various aspects of the substantial international migration – mainly to France – but no mention of fishermen. Studies of international migration, remittances and investment back in the home communities are quite frequent but none specifically concern fishing-related migration. The two countries where most migration studies are published in the demographic literature are Burkina Faso and Senegal. Burkina Faso has long been an emigrant country with substantial proportions of its population migrating, particularly to Ivory Coast. A huge, nationally representative study of return migrants in Burkina Faso undertaken in 1975 used very detailed biographies to track internal and international migrations back as far as the 1920s (Cordell, Gregory & Piché 1996). This approach is highly effective where much of the migration is circular and the elderly eventually return home. It was able to demonstrate the different flows by region and motives but of course is selective in that only return and internal migrants could be interviewed.

The diversity of origins, migrant characteristics, destinations and occupations do mean that many of the tables are somewhat hard to digest and summarise. Fishermen (classed with those working in forests) were effectively non-existent in this study (because rare in Burkina), which is unfortunate because of the wealth of the data. More recent studies of migration have continued to use the biographical approach with a nationally representative retrospective survey done in 2000 (Henry et al 2004, 2005) which allows the authors to test a range of relationships between environmental conditions, land quality and migration. However there are few fishermen in Burkina and the focus here is on rural farmers. Many demographers have taken up the issue identified by Zachariah & Condé (1981) of rural-urban migration – and this is a major theme of many of the publications on migration in Senegal and elsewhere. The general assumption is that most rural-urban migration is made up of people leaving a production system, agriculture, which can no longer support them and moving to find non-agricultural work in the cities.

The issues examined are the characteristics of the migrants (age, sex, education, marital status), the factors pushing them to leave rural areas, those pulling them to urban areas and the type of migration – whether it is short term, seasonal, circular or permanent. Integration, employment and institutions in urban areas are important research themes (Fall 1998) and these reflect those in the fishing literature on the institutions in the receiving areas (Nguingui 2000, Haakonsen 1991, Jul-Larsen 1994 a & b). There has been a movement away from quantifying migration flows in the demographic literature towards issues of trying to understand the causes and consequences of such flows both from the perspective of the individual concerned and the community. The changes of such flows over time

are now seen to be both a cause and consequence of patterns of integration into host communities. Migration flows take on their own dynamics, moving from isolated individual decisions to move, to flows where migration becomes institutionalised and expected and where the existence of former migrants in a community generates institutions which pull later migrants to the same place, the same occupations and helps them establish themselves (Curran 2002).

Recently, analysis of causes and consequences of migration are somewhat dominated by research on HIV/AIDS. A search on POPLINE including the words migration/migrant and each of the West African countries by name brings up mainly literature concerned with HIV/AIDS. Here migration is not being studied in its own right but is transformed into an individual level characteristic as a risk factor or a risk behaviour, although some studies have started to challenge this approach arguing that demographers need to move away from the idea of risky migrants and deconstruct the different types of migration, the particular domestic and economic situations that migrants are likely to find themselves in and the accompanying behaviours such as condom use, infidelity etc. (Lagarde et al 2003, Lalou & Piché, 2004, Coast 2005).

Why are migrating fishermen absent from the demographic literature?

There are several reasons why migrating fishermen are invisible in the demographic literature. The first and foremost reason is related to the understanding and definitions of migration and the development of the study of migration in West Africa. Migration is primarily seen to be an extension of the phenomenon of labour migration that developed in colonial times – largely made up of men leaving rural areas and agricultural production to work for cash either in urban areas or cash crops (peanuts, cocoa, cotton). Some of this circular migration gradually became permanent and with increasing urbanisation and education there developed a mobile professional workforce. For demographers most migration is economically motivated labour migration to exploit new resources. The major flows in West Africa are generally perceived to include movement from one production system (usually subsistence agriculture) to another, either working on plantations or urban labour.

Migration where the migrants remain within the production system is not really conceptualised as migration at all in demography although Aina (1995) writing about non-metropolitan migration in Africa does point out the contrast between movements of generic labour and other types of rural-rural migrants who 'each provide their own brand of services' in which group he identifies traders, fishermen, transporters and prostitutes. Typical of the demographic approach is Guillemot's (1997) study of migration in the Senegal River Valley which excludes transhumant migrations 'because they are a different sort of thing all together'. Within-production-system movement may be classified as mobility, as transhumance, as nomadism, but it is not perceived to be a subject of study in its own right and when acknowledged (rarely) it is often mentioned in passing as a problem which complicates demographic data collection, blurs the edges of nice clear definitions of

households and confuses the interpretation of intercensal population changes in small geographical units. This is very clear when examining the literature and data on the demography of nomadic pastoralist populations (for whom there are many parallels with migrant fishermen but also significant differences) and who, like migrant fishers are largely absent from the demographic literature.

Pastoral nomads move to follow the rains and therefore the pastures for their herds. They may cross international boundaries (more difficult in recent years), they often cross internal boundaries. However the movements are part and parcel of the production system and without movement they could not be pastoralists in the Sahel– only through movement can they exploit the patchy rainfall and vegetation. The demographic literature does not generally classify mobile pastoralists as migrants unless they leave pastoralism and move to a different area to practise some other economic activity (Hampshire and Randall 1999).

Some authors define such movement as ‘traditional’, effectively labelling as a legacy from pre-colonial mobility that is now somewhat of an anachronism. The way that mobile pastoralists have been addressed in the demographic literature is largely through ignoring or avoiding them (Randall 2003). Demographic and Health sample surveys (DHS) frequently omit areas which have high proportions of mobile pastoralists or they just sample from the sedentary population (Randall 1994). The justifications are generally that such areas are of low population density and thus very expensive to survey with few returns, or there are security problems. Censuses, which are supposed to be a total count of the population, do cover nomadic pastoralists although it is recognised that there are likely to be serious problems with underreporting and poorer data (Randall 1994).

Analysis of census data on nomadic pastoralists has rarely been done. They are frequently difficult to identify unless specific questions are asked (as in Mali) and census questions are usually ill-adapted to capturing the types of mobility pastoralists practise. Studies of pastoralist mobility and migration have usually been undertaken either by geographers (Gallais 1975, Bernus 1981) or by anthropologists (Dyson- Hudson & Meekers 1999, Leslie, Dyson-Hudson & Fry 1999, Spencer 1973) and resemble those of the migratory fisherfolk both in terms of scope and methods. Thus there are many similarities between nomadic pastoralists and migratory fishermen in their movements, the motives for their movements and the way they are treated in demographic research. As primary producers in many censuses and surveys both groups are subsumed under agriculture (although in the Malian census both fishing and herding are classified as separate economic activities in the published tables). Both groups move within the production system and mobility is essential for production. This is always true for extensive Sahelian pastoralists. For the fishermen it is true in the cases where the fishermen move because the fish move – as is the case for Bozo and Somono fishermen in the inner Niger delta and for some of the groups following the seasonal movements of pelagic fish off the coasts of Ghana and Ivory Coast. However, other fishing migrations are in fact much closer to the labour migrations which are studied within demography,

especially rural to rural migration to work on cash crops. Those fishermen who migrate because the markets are better or the exchange rates favourable and who are fishing only for sale, not for subsistence or petty trade are effectively working with a cash crop and their migrations should be seen as such.

Fishing migrations also resemble pastoralist movements in terms of the people who move. Although data in the fishing literature are rather inadequate about the age-sex structure of migrants, in general younger men are most mobile, sometimes accompanied by women with some migrant groups moving as entire families. Many pastoralist groups have similar mobility patterns (Maasai, Fulani) although in other more mobile groups (Tuareg, WoDaaBe, Turkana) the whole household usually moves including women, children and old people, although young men may be even more mobile.

Most contemporary pastoralist populations also participate in wage labour migration – largely as a result of economic and climatic crisis but also because of cash needs (Hampshire & Randall 1999, 2000, Coast 2005, White 1986) - and these movements do fall into the migration categories studied by demographers. From the fishing migration literature it is very unclear the scale to which fishermen leave fishing for other activities. Some data are available for fishermen in the inner Niger Delta (Jul-Larsen 2001 and personal communication, Kassibo 2000) where fishermen migrate out of the area not to follow the fish but to create new fishing opportunities by moving to under exploited water bodies. According to Jul-Larsen all those who emigrate from the Inner Niger Delta do so to fish and 85% are exclusively fishermen, but an earlier (1990) sample survey study on the same population estimates that at least 26% of households have at least one member away from the zone on migration and only 54% of these absentee migrants are fishing (Herry 1994). Jul-Larsen's study of the Beninois fishing community in the Congo mentions in passing that members of the families of fishers with relatives in Congo have other relatives all over Benin and elsewhere doing a wide variety of activities, implying that labour out-migration is relatively common.

Hence a major reason for the lack of overlap between the literature on fishing migrations and the demographic migration literature is due to different interpretations of the idea of migration. Much of the fishing migration is better captured by the concept of 'circulation' explored more by geographers in the 1970s and 1980s (Gould 1976, Chapman and Prothero 1983). Chapman and Prothero define migration as a permanent or semi-permanent change of residence, in contrast to circulation which includes a wide variety of movements and terms for such movements, but essentially does not alter 'the long-term distribution of the population'. Under this definition the majority of the fishermen's migrations are not migrations at all but circulation since there is rarely an intent of permanence.

A second reason for the lack of consideration of fishing migrations by demographers is that they do not fall into the major categories of interest – those of rural-urban migration and trans-continental migration. As the dominant forms of migration in

West Africa and also the catalyst that is transforming the whole region through its impact on the economy, fertility behaviour, mortality, lifestyles, the landscape, social relations and most other aspects of life, urbanisation and trans-continental migration are major research and policy pre-occupations.

The small scale of fishing migrations and their localised nature is another barrier to their study. From the fishing migration literature it is somewhat hard to gauge the scale and extent of migrations because migration rates are rarely published and most authors concentrate only on fishing communities and provide little or no information on the relative size of the fisherfolk to the non-fishing population in any locality. An example of scale can be seen from the Malian census (République du Mali 2001) where the Bozo are the main population of fisherfolk. Tabulations of maternal language for those aged 6+ from the 1998 census show that 1.8% individuals have Bozo as their maternal tongue. A random sample survey with a sample size of 5000 respondents would contain around 90-100 Bozo - a sample completely inadequate for identifying fishing migration as an issue. Thus national sample surveys on migration are just not going to pick up fishing migrants – the only way they can be identified particularly is through regional, occupational or ethnically focussed studies– as was done by the French ORSTOM team in studying the demography of the fisherfolk in Mali (Herry 1994).

A recent Population and Environment survey in Ghana undertaken by Brown University with the University of Science and technology, Kumasi may allow us to compare migration of fisherfolk with other populations in the same area. A representative sample of the coastal provinces using biographies and annual status includes a considerable number of fishermen (Holly Reed & Catherine Stiff personal communication) and this data set has been made available to the author. It might be thought that this barrier could be overcome through demographers using the focussed data on migrations collected by fishing migration researchers.

However, as will be seen below, the methods used and the questions asked do not, in general, allow for the sorts of analysis which demographers would want to undertake. The above-mentioned Ghanaian survey may be one study which can address the interests of both research groups.

There are therefore a range of reasons why fishing migrations should be almost totally invisible in the demographic literature on migration, and these reasons range from the conceptual to the practical. In order to address them I will focus on several themes analysed within the fishing migration literature and consider the extent to which demographic approaches can contribute to these themes and broaden them.

Typologies of migration

It has been pointed out that there is a terminological difference between the two bodies of literature about what constitutes migration. The complexities of migration are such that it is essential to clarify exactly what is meant by migration and the different forms which operate in any one community or region. Much of the fishing

migration literature is very clear on this and many articles provide clear descriptions of migration itineraries for the study populations. The usual model is to distinguish three dimensions: scale, pattern and duration. These dimensions are similar to those identified in the migration literature although by their sensitivity to the diversity of fishing migration patterns in any one community, the categories used tend to be more numerous.

Scale

Most studies conventionally distinguish between international and internal migration. However in West Africa where colonial boundaries frequently cut through ethnically and linguistically homogenous populations, where traditional movements were based on ecological conditions rather than political divisions, where many frontiers remain fairly porous and where many fishing migrations may not necessarily have had the intention to go abroad, this distinction may not always be significant. However at times it is a deliberate aim of fishing migration – to go to a country where particular resources are cheaper, where the exchange rate is better and for other good commercial reasons (see 2.3.1 below).

Pattern

Regular seasonal movements of fishermen which follow the movements of the fish are generally distinguished from longer term circular migrations which may last between 1 and 8 years and may transform into more permanent migrations. Migration patterns exhibit substantial complexity. Short term movements may last only a week, several weeks or a full season; all with somewhat different repercussions for those who move and those who remain behind. Such movements are changing over time; better canoes and more powerful motors are reducing the duration of many circular movements, while better methods of conservation whilst on board are increasing the potential for spending longer periods at sea. The movements of fish which are largely determined by upwelling of ocean currents also change from year to year. Whether the brief movements should really be counted as a migration is a moot point. The majority of demographic migration studies would not qualify anything of a duration of less than 3 months (in some cases 4 or 6 months) as a migration, although two studies of sexual behaviour in Senegal included short term moves of a night away in the preceding 4 weeks (Lagarde et al 2003) or the preceding 3 months (Lalou & Piché 2004) as the migration category of short term mobility.

A further issue about pattern of movements is that of intentionality. Migrants may have the intention of being a circular migrant and eventually returning home and their kin may expect them home, but it is not until they have actually achieved the return that the migration becomes circular. Thus most Beninois Popo in Congo intend to return but Jul-Larsen is clear that many never achieve this. Similarly contract fishermen may move from one contract and one boat to another and one place to another. Herry estimates that at least 10% of the temporary out-migrants identified by resident fisher households in the Inner Niger delta are actually permanent migrants who will never return (Herry 1994). Identifying seasonal

rather than longer- term circular movements becomes more complex when, as often happens, the two are combined.

Delaunay (1991) describes two populations of Ghanaian fishermen who have migrated to Côte d'Ivoire; the Fante and the Ewe. Both groups retain links with home communities back in Ghana with some people returning home more often than others – some on visits, some permanently. At the same time, once in Cote d'Ivoire there are further seasonal migrations to follow movements of fish.

Groups of migrants

By groups of migrants I mean the people who migrate together. Different patterns of group migrations are also observed although these are rarely commented on quantitatively. This varies according to the type of canoe and fishing gear but also by type of migration, social organisation of the boats and the modes of marketing in the destination. Thus there are single young men who leave alone (eg some Inner Niger delta fishermen), companies who may or may not be kin-based (Ghana, Benin, Congo), and companies accompanied by women – either just one or two to do the cooking, or many who do the fish processing and marketing.

Different typologies

Most studies which specify typologies typically divide them up according to the pattern and the scale (table 1).

(See Randall (2005) Table 1.)

Such categories of migrants are useful for conceptualisation but do not always simplify analysis. They are often complicated by various other factors.

1. Differences between sub-groups. Different ethnic groups within the same area may have different migratory strategies and destinations both because they fish different species using different gear or because of tradition. The same population may undertake different types of short term and seasonal migrations in a single year. Overa (2001) describes how, on short trips men go alone and women resident in the area of their fishing destinations are entitled to the catch, whereas on longer (4-6 month) seasonal trips, catching different fish species, women accompany their husbands to process and trade fish.

2. Combined strategies. Long term migrants, whether internal or international may also make seasonal movements within their destination, or may move on to a third country. Different populations, subgroups or even families may have different strategies and destinations that change over time. As Overa says of fisherfolk in Moree, Ghana 'Every lineage in Moree has its own fishing migration history'.

3. Determining permanence. Many of the migrant communities are said to keep in close contact with their home community, visiting at certain festivals, sending money, even sending children back to be educated. It is very difficult to define when

somebody has become a permanent resident in the new environment without having arbitrary cut-off points. Such cut-offs might state that if a person spends more than a certain time in an area s/he is a resident of that area. Such definitions may contradict the emic perspective of where people feel they belong. In some of the literature, communities were described as migrant communities even though they had been established over a generation before. Again, definitions of migrant need to be clarified. Are people migrants because they have moved in their lifetime or because they have some characteristic (ethnicity, language or even occupation) which makes 'migrant' a hereditary label?

Omitted categories of migrant

Two categories of migrant are rarely mentioned in the fishing migration literature – or if they are it is only in passing, yet in demographic analysis they would probably be those migrants most worthy of interest. Again these can be divided into internal and international (table 2). These migrations in and out of fishing are probably very important in all these countries given the fairly general crisis in agriculture and the relative open access to fish as a resource. Ndiaye talks about the general craze for fishing in Senegal and the well-trod path towards the “blue gold” (Ndiaye 2004).

See Randall (2005) Table 2

Emic classification of migration

Demographic classifications of migration tend to be very specific about timing and destination because of a desire for precision but also a need for exclusive categories for analysis. Yet there is evidence that local terminologies of movement or migration may demonstrate the important values and differentiating features for those actually undertaking the movements. Chapman and Prothero (1983) in their seminal work on circulation state:

Indigenous concepts and sayings often capture the inherent meaning of movement in ways not appreciated when Western precepts are employed; they also underline the ambiguities not accommodated in schemes based upon the discrete criteria of time and space. p. 622.

This is mentioned by Bortei-Doku (1991) with respect to Ga classifications of migrations which depend much more on the type of fishing and why people move but aprodo migrations have no specific time frame whereas hefoo are specifically short duration migrations to places where dense shoals of fish have been spotted.

2. Data sources for migration studies

Although a few fishing migration studies use similar methods and data sources to demographic studies of migration, other fishing research has been innovative in deducing migration patterns from rather different approaches and occasionally from routinely collected fishery statistics. The limits to possible analyses stem from these different and therefore somewhat constrained sources.

Demographic data sources

There are three main sources of data for demographic analysis of migration in Africa

Census data

The advantage of census data is that they are (theoretically) a total coverage of the population and therefore, even if the fishing community is small, data are available on everyone and always include details of age, sex, education, occupation, marital status. This means that if individual level data were made available, quite detailed analysis could be undertaken. However published tabulations will rarely be useful for looking at fishing migrations because they tend to be aggregated into administrative districts which include a heterogeneous range of individuals and communities.

There are several disadvantages of census data. Many of the published tables aggregate together people in primary production: farmers, fishers, and herders – although it is quite possible that individual level data actually are able to identify specific occupations (it was beyond the scope of this review to identify whether this was actually the case in the West African countries although it is known that Mali disaggregates fishers in published tables). Migration data in censuses tend to be somewhat limited. There is usually a question on place of birth and nationality and many censuses have a question on either the last move, or on place of residence a fixed time before the census (often 1 year or 5 years). Such data could capture some of the migrations undertaken by fisherfolk, but would be unable to distinguish seasonal migrations from more long term ones and would be very dependent on the season the census was undertaken. Data on absent members of the household could identify those currently away on fishing migrations, although the motive for absence is rarely collected. The problem here is that, under census definitions, any person who has been absent for more than 6 months is no longer counted as a member of the household.

Census data therefore could be an effective tool for examining net in-migration of longer-term movements and analysing the different characteristics of migrants and non-migrants in the destination alongside information about their housing conditions. This would only be possible if the individual level data were available and appropriate questions had been asked. Census data can tell us little about out-migration (intercensal changes would be impossible to interpret in environments of such high mobility).

Longitudinal studies

A longitudinal study would probably be the ideal way to study fishermen migrations because such studies, provided the revisit periods are relatively frequent (every 6 months perhaps), are flexible enough to cope with the range of migration patterns identified in the fishing literature. A longitudinal study in a sending community would be able to identify the characteristics of migrants and follow-up their returns and the benefits (or disadvantages) of different sorts of migration and also examine some of the other consequences of migrations. It would also allow good estimates of the stocks of migrants flowing out of that community. A longitudinal study in a receiving community would have to be designed to be able to incorporate all new arrivals and would probably need rather shorter revisit periods.

The disadvantages of longitudinal studies is that they are generally very restricted geographically and, given the enormous diversity in migration patterns and destinations in all the West African countries, such a study would be highly specific and the conclusions not easy to extrapolate to other populations. They are also very expensive. Several longitudinal studies already exist in West Africa: Niakhar in Senegal (since the early 1960s), the MRC study in Keneba and surrounding villages in the Gambia (since 1959), Bandafassi (Senegal), Navrongo in Ghana and a couple in Burkina Faso – however none of these covers fishing communities. Lagarde et al built on data from three longitudinal West African studies (Niakhar, Bandafassi & Cio in Guinea Bissau) to look at mobility and the spread of HIV in rural West Africa.

Sample surveys

Sample surveys are the principal tool used by most demographic research. In all the countries in the West African region Demographic and Health (DHS) have been undertaken.

These surveys are nationally representative but have relatively restricted samples (about 5000 women) and would generally have too few fisherfolk to enable any separate analysis. They contain little or no data on migration but are a useful source of information on fertility, mortality, health, KAP (Knowledge, Awareness and Practice) of contraception and, in some countries have modules on HIV knowledge, female circumcision and, in Mali, HIV testing. Other sample surveys are more focused with particular studies of migration having been undertaken in seven Francophone countries in the early 1990s (Traoré 2003).

Migration surveys now tend to use biographical methods with simplified calendars, getting people to record significant events (like births, deaths and marriages), occupations and migrations on these calendars which are then analysed using event history methods. This method is powerful and was used in the Burkina study undertaken in 1975 (Cordell et al 1996), the recent study in Burkina (Henry et al 2004, 2005) and in the Ghanaian migrant study. However it is less effective for frequent migrations and changing patterns of short-term seasonal migrations because of the problems of recall – and also data management. Decisions have to be made about the units of time for which data will be collected – and if lifetime biographies are required then a year is the most practical measure. Thus in the

Ghanaian study one move a year could be recorded – which will miss most shorter migrations.

Focused sample surveys on a geographical area and /or a particular topic would be the most practical way to address issues around fishing migration. As outlined above several studies have focused on migration and HIV with others concentrating on rural-urban migration. In collecting migration data in a survey systematic decisions have to be made about what classifies a migration in terms of both scale and duration. There appears to be no standard definition – each study using its own cut- off points depending on the specific research questions. Table 3 shows some of the range of measures and definitions.

Clearly the perspective on migration is also dependent on whether the study is looking at general mobility and circular migration (therefore interviewing people about their own past movements), outmigration – interviewing households about absent members, or in-migration – interviewing migrants in their destinations. Without a longitudinal study out-migration is always likely to be underestimated.

See Randall (2005) Table 3.

Fishery studies of migration

Most of the fishery studies of fishermen migrations are very focused studies of a few communities and where specific data are collected (rather than using other sources) they tend to focus on very different aspects to the demographic data. The samples are usually much smaller than the demographic studies, which reflects the scale of the migrating population.

Small focused surveys

Many fisher migration studies are small focused studies using some form of systematic interviewing or questionnaire to collect data. Often the data collected, or certainly the published tables, are not presented or analysed in ways that contribute to our understanding of the demography of these migrations. A few provide age-sex breakdowns of different communities and at different times of year, but these are rare and many are unclear in their use of terms and categories.

Sedzro (2004) presents some data on numbers of fishermen in Togo although it is not always clear where the data come from and he includes some demographic data from a study done in 1996 which, although many details are not provided, was clearly undertaken in both the high and low season to capture in-migrants. Different populations with different patterns of movement are identified with Adan moving with their wives and children but Ahloan being more often alone. However after pointing out that both women and children were there the study talks about ‘the fishing population’ without ever being very clear about whether this is just the fishermen or the entire population. The report gives some good descriptions of the general movements of groups but is at times very muddled and lacks clarity about which group is being talked about. Some attitudinal data were collected but no

comment is made on the fact that despite over 50% fishermen in 1996 thinking that fishing was unprofitable and 37% wanting to change profession, the numbers of fishermen between 1996 and 2001 appear to have doubled. This study could have benefited from much clearer definitions and explanations and more demographic data.

Although children are said to move with their families the overall population structure at different times of year is not clear, nor are any issues about the welfare of those children addressed.

Bouju and Chavances's study in Guinea (2000) combined anthropological research, open-ended discussions at certain fish landing sties and data from a single-round survey which they believe to be a very productive combination. This study provides very clear definitions of different types of fishing and the role of migration in each type. Numbers of boats practicing each type are given but nothing at all on the demography of the individuals and their characteristics.

Jul-Larsen and Kassibo's study of work migration amongst the Delta fishermen in Mali (2001) focuses on the migration away from the Delta fishing grounds – in order to generate access to new fishing opportunities. The data were obtained from a survey in of 25 different fishing communities in the Delta and some of the migrants (although they make it clear, not a statistically representative sub-sample of them) were followed up in a few destinations in Burkina Faso. Here the definition of work migration was for periods exceeding 6 months to destinations outside the delta. This focus allows a description of the main characteristics and motivations of these migrants – who are said to be mainly 17-30 years old, although no data are available on detailed characteristics of those who move or the differences between households with migrants and those without. Thus, again, a rich description but difficult to quantify the scale and determinants of the movements.

Dia's fascinating recent multi-round study of migration into fishing communities in the

Banc d'Anguin National Park in Mauritania looked at not only the origins of the different migrants but also the 'fishing campaigns' they worked on and the mean duration of their stay in Mauritania (Dia et al 2005). This is only a preliminary unpublished report and it may be that further data are available, but questions that could have been asked of the data were whether the same migrants participated in several campaigns (a campaign is a seasonal contract with a particular boat or group

of boats) and moved from one to another, their links with their home countries and their links in the host communities, living arrangements, wives etc.

None of these studies really aimed to provide a demographic perspective on the fishermen's migrations. However each could have benefited from more detailed demographic data in order to examine the characteristics of the migrants, whether they were more likely to be from poor or richer households and therefore shed light on some of the motives for migration (these are addressed in a different way by Jul-Larsen & Kassibo). Knowledge of motives and incentives is important for the

consideration of appropriate ways to regulate access to fisheries by migrants, if appropriate. Where women and children were involved in migrations it is hard to evaluate the issues for their welfare without knowing more about their characteristics in terms of age, marital status, living arrangements etc. This makes it difficult to assess the requirements in such fishing communities for services such as maternal health care, educational provision and so on.

Canoe surveys

A number of studies of fishermen migrations use numbers of canoes and the origins of their owners, or data on registration of canoes (Chavance 2000, Chaboud & Kebe 1991, Everett 1991, Koranteng 2000, Mpandou 2004). Whereas such data may give some indication of origins and, if the average crew size is known, can provide a good quick estimate of numbers of men involved, they tell us little or nothing about the characteristics of the migrants and nothing about accompanying women and children or those left behind. Mpandou's study in Congo (Mpandou 2004) which appears to be based on demographic data derived from boat owners may be very misleading since it is highly unlikely that they represent the characteristics of the other working men.

Anthropological studies

The anthropological studies (Bouju 2000, Bouju & Chavance 2000, Jul-Larsen 1994, Jul-Larsen & Kassibo 2001, Overa 2000, 2001, Nguinguiri 2000) are the richest in terms of understanding the dynamics of migrations, the institutions which support and maintain migrations and the evolution of different migrations over time. However unless they are undertaken in conjunction with more quantitative work – as is the case in Bouju & Chavance in Guinea and Jul-Larsen & Kassibo in Mali, then we have little idea about the scale of the migrations. Rarely are any data provided on the ratio of migrants to non-migrants in either the sending or receiving communities. However in general the anthropological studies do provide some information on the role of women in the migrations, and sometimes even children – which is more than the majority of the other studies – although again the issue of scale is rarely addressed.

Combined Demographic studies of fishing communities

There are three studies where demographers have been involved in the study design and collection of data in fishing communities; the multidisciplinary ORSTOM study of the Bozo and Somono fisherfolk in Mali (Herry 1994), the multi-disciplinary study of Ghanaian fishing populations around Moree (Marquette et al 2002) and an FAO commissioned study of the population dynamics of various fishing communities around the world including, in west Africa, Senegal (Groenewald 1999, Gueye 1998).

All three of these were more interested in the general population dynamics rather than migration. The Senegal study collected a large amount of data on fertility and reproduction but nothing on migration – which seems to be an opportunity missed. However the study design did include comparative data from nearby non-fishing

communities, but sample sizes were rather small for much sophisticated analysis. The Ghanaian study also had very small sample sizes for the social survey and primary demographic data collection (60 men and 60 women) although secondary demographic data sources were also used. The Malian fisher demographic study was very comprehensive, with a single round survey of 15,000 households and some later follow-up. A range of other parallel studies allowed the description of different migration strategies and patterns within the Delta, changes over time and some estimates of out-migration from the Delta

The studies of migration in the fishing literature are very diverse in their aims and given that the majority are not attempting any demographic analysis of migration flows, the stocks of migrants and the distributions of different types of migrants in destination communities, the absence of good demographic data should not be seen as a critique of their quality. However the utility of the studies could be enhanced by focusing more on these issues and, when quantitative data are collected, by ensuring that the right questions are asked and the whole population is covered and the sample size is adequate. Several small scale studies do collect some demographic data and make heroic attempts to analyse and interpret the results (Atti-Mama & Rais 1986, Wyllie 1969) but often the numbers are too small to really appreciate the dynamics of the situation and the categories, concepts and data collection methods are not clearly explained so that biases and anomalies are unclear.

3. Key Issues in Migration Studies

Several themes and issues emerge in both sets of literature, some of which have already been touched on above (section 1.3) since, to a large extent the current key themes determine much of the research and analysis that is undertaken. Rural-urban migration and the relationship between migration and HIV/AIDS will not be considered further, but other important themes are described briefly.

Both causes and consequences of migration are important at a range of different levels: for the individual migrant, for his/her household of origin, for individuals s/he encounters and interacts with en route, and for the communities of origin and destination. The consequences of migration can also be studied at a national level in terms of remittances, investment and, in the case of the fishing migrations, the production of protein for consumption and therefore a contribution to the nutritional status of the population.

Migration and poverty

Most migration is seen to have economic motives – some have argued that all migrations have an economic motive, even those due to marriage or familial responsibilities - and therefore it is inevitable that migration is seen as a response to poverty. It is well known that labour-migrants are a highly selected group – apart from being age-sex specific (usually dominated by young men) – they also tend to be the better educated, the more dynamic, and the better off in their communities of origin. There is some evidence that poorest households cannot afford to send individuals on migration and this is particularly the case when they are demographically poor – households with smaller adult male sibling groups are often unable to exploit migration as a diversification option (Hampshire & Randall 1999). The question remains whether migrants are better off in their destinations and the conclusion is that generally they are, even if to the outsider they are often living in appalling slum conditions.

The demographic literature generally identifies different types of migrants and an important issue is the types of people who migrate and why. In contrast the fishing literature rarely examines issues of selectivity save in the implicit implication that it is usually young men who migrate. Sometimes age profiles of migrants are given but never is there anything about any other characteristics: education, nature of family of origin, sibling group size.

The fishing literature is also concerned about the relationship between migration and poverty – although the concern appears to be more that fishing communities appear to be poorer than other populations (Marquette 2002). Yet if the circumstantial evidence is correct for Senegal, certainly many of the migrants who have moved from agricultural areas to the 'blue gold' see fishing as a common property resource to which they have access and therefore as a way out of poverty.

Migration and The Environment

Both bodies of literature frequently address the relationships between migration and the environment. Clearly this ties in with poverty in that if the environment is unable to support the population then migration is often the only solution. The theme of the push of poverty and environmental problems at home [this is the case in most of West Africa where the majority of the rural population depend on the natural environment for their livelihoods] versus the pull of the destination is a common thread. Jorion (1988) stimulated much of the thought and research on the idea that environmental degradation and over fishing are the major stimulus to fishing migrations.

The most frequently cited quote throughout the fishing migration literature is that “No-one ever becomes a full-time maritime fisherman other than under duress” (Jorion 1988) based on his research in Benin. His theory is that most part-time fishermen who have access to agricultural land and who rarely migrate have no desire to become full-time fishers and that full-time fishers would prefer the security of cultivating but have no access to arable land – or only have access to degraded and inadequate land – and are therefore forced to migrate either to follow shoals of migrating fish or to find better, less populated areas to fish. Thus the key element of Jorion’s argument is that fishermen are pushed to migrate through environmental crises in their place of origin which prohibit them from farming; in his Benin case study people have lost access to land through erosion. Nukunya (1991) writing about the Anlo-Ewe migrations clearly agrees with him arguing that poor soils combined with overfishing necessitate migration.

Many researchers have subsequently taken issue with Jorion (and specifically with the quote above), arguing that there is substantial evidence that long-distance migrations to fish are based as much on pull factors in the places of destination as they are on push factors in the place of origin (Marquette 2002, Nguinguiri 2000, Overa 2001 and others). Some of the pull is clearly exhibited by the movement of fish but the flexibility of migrant fishers in the face of changing market conditions and political situations both at home and in destinations is a key component of their responses. Movements to countries with advantageous currency exchange rates, beneficial costs of inputs such as fuel, canoes and nets, and important markets for fish undermines the idea that fishing migrations are necessarily a sign of desperation.

With the exception of Jorion, the fishing literature does not give much credence to the environmental push. This issue of poor environmental conditions pushing out-migration is also addressed in the demographic literature, although the difficulties of establishing causation are emphasised. A general theme is that much of West African rural-urban migration is stimulated by a crisis in agriculture which is a consequence of rapid population growth combined with climatic change. A migration survey in Burkina analysed in conjunction with GIS data and rainfall data tried to establish whether unfavourable environmental conditions (in terms of both rainfall and land degradation) stimulated outmigration to areas with more favourable environments (Henry et al 2004, Henry et

al 2005). The authors argue that to test this hypothesis very detailed longitudinal data are needed – which they lacked - but they did have detailed retrospective biographies charting spells of migration lasting more than three months with data on motives for leaving, occupations, destinations etc. and detailed rainfall and environmental data. Many of the analyses they undertake show little significant impact of environmental conditions on migration, although they do point out that poverty may be a mediating factor here with those in the worst conditions unable to afford to migrate. The main conclusions from the 2005 paper are that to consider the impact of rainfall conditions it is essential to analyse the data both in terms of destination and duration.

Destinations are classified as rural, urban or abroad and duration by long or short term. There are several interesting interactions. Educated men are more likely to undertake long-term migrations whereas short-term migrations are more likely to be undertaken by men living in regions with scarce or irregular rainfall implying that there is an environmental push factor with short-term migrations as a way of diversifying production. This research should be a warning against simplistic correlations and attempts to infer cause and effect from simple observations – and also from stated motives. None of the studies of fishing migration have data which is detailed enough to permit such sophisticated analysis.

The other side of the migration-environment relationship is the issue of whether migrant fishermen contribute to environmental degradation and over-fishing in the place of destination. A number of possible conditions could be argued to favour overexploitation by migrants: competition with local fishermen; unfamiliarity of outsiders with the dynamics of the resource and a lack of detailed knowledge and understanding of the ecosystem; different values placed on the resource; not being subject to or not knowing about local regulations controlling access; and generally treating the resource as an open-access system for these or other reasons. Cassels et al (2005) in reviewing this issue in Indonesia suggest that there are 4 main aspects which should be considered; (a) the role of immigration in increasing local population density in the place of destination and therefore those dependent on the resource: (b) how migrants extract the resource from the environment: (c) the rate or efficiency of extraction and (d) the social and economic context within which extraction occurs.

In the west African fisheries where fishing is not for subsistence but is a commercial activity the impact of increased population density in the destination is probably largely irrelevant unless, as might be the case in Senegal now (Ndiaye & Mbaye 2004) the numbers of fishermen and canoes have reached saturation. Given the desirability of a local market for fish, high population density might even be seen as advantageous. In terms of extracting resources from the environment most of the accounts of West African migrant fishermen indicate that migrant fishermen tend to fish different species from any local fishing groups, using different types of gear and canoes (Nguingui 2000, Jul-Larsen 1994 and others). Thus, in general they are not in competition but complementary to local groups.

There is some evidence of conflict, again mainly in Senegal (Ndiaye & Mbaye 2004, Ndiaye & Seck 2004, Platteau & Strzalecki 2004, Dumont 2004) and also in relation to movements of fishermen to man-made inland reservoirs (Haakonsen 1991) but in general conflicts are infrequent. Migrants are generally perceived to be dynamic, innovative and beneficial to host populations, fishing for complementary resources, bringing in new ideas and technology, generating local employment and improving the protein availability on local markets (Haakonsen 1991). However it should be emphasized that much of this positive literature is dependent on research undertaken in the late 1980s and early 1990s. The more recent literature – which is heavily biased towards Senegal – suggests that there at least in recent years there has been a significant environmental deterioration, there are frequent conflicts and migration is contributing to the problems but most of this migration is INTO fishing by former agriculturalists, rather than movements by traditional migrant fishermen.

Cassels' final point concerning the impact of migration on the environment is that of the social and economic context in the destination. The fishing literature is particularly rich on this documenting the range of institutions both within migrant fishing communities and mediating between them and the host communities which manage conflict, resources and a range of practical problems such as accommodation, food etc (Nguingiri 2000, Jul-Larsen 1994, Overa 2001, Boe 1999).

Curran (2002) reviews many of the key empirical and theoretical ideas for understanding the relationship between migration and coastal ecosystems. For her there are two important questions: which migrants with access to which resources? and how are these migrants embedded in the set of social relations defining ecosystem use in a place of destination? She notes that there are two contradictory arguments about the relationship between population growth and common property resource systems – one being that population growth contributes to environmental degradation because common property regimes are diminished by population growth, and the other being that common property institutions are resilient to various pressures including those of population pressure.

From the West African fishing literature the former argument appears to apply to the recent dynamics of fishing in Senegal (Ndiaye 2004) where much of the migration is into fishing from non-fishing populations but the literature from elsewhere implies that resilience is more common. However this may be because outside Senegal, most of the documented fishing migration is within production system and there are powerful institutions controlling the migrant fishers both from within their own community and mediating relationships with indigenous populations. These have developed over decades of migrations and the necessity of negotiating access to resources and markets with local populations, and even where fishermen migrate to new environments similar institutions are rapidly deployed. This contrasts somewhat with the changing social networks over time described by Curran and may be an example where the past tradition of extensive fishing migration means that the time-frame for the development of social networks and

institutions in a specific destination can be accelerated. Curran points out that, in general, where people move depends largely on social networks and these networks (which operate in both the community of origin and the destination) evolve over time and become more established, thus facilitating further migration flows. It is not clear that this is the case for many of these within production system fishing migrations in West Africa. For example the movement of 'Popo' fisherfolk from Benin to Congo appears to have stagnated in recent years, once the women arrived the numbers have barely changed (Mpandou 2004, Jul-Larsen 1994), and yet this is clearly a migration where there are well-developed institutions facilitating both migration and integration in the original and host community. It is clear that some of the migrant streams do develop over time, but they also change rapidly when political or market conditions change and new movements are constantly opening up and old ones closing down.

Curran's review implies that much of the literature associates migration with deteriorating social institutions in both the origin and the destination, thus contributing to environmental problems. She then produces several counter examples and further ones can be observed in the West African fishing literature. The key difference may be that firstly these migrations are within production system and therefore the migrants themselves have a good understanding of management of the key natural resources and a strong interest in maintaining them over the longer term.

Secondly because most fishing migrants are totally dependent on marketing (and often processing) in the host community, social networks are developed and maintained very quickly and thirdly the flows are formed less by a trickle of individuals which develops over time but more by groups of people and canoes moving together. In these ways the West Africa fishing migrations can be seen as rather different in nature from most other migrations covered by the demographic literature.

Curran finishes with various recommendations for the study of migration and environment which could be useful guidelines for more detailed study of the West African fisher migrations; key points are that a longitudinal approach is needed – more than just a study focussing on two points in time: we need to know about non-migrants and we need detailed analysis of the selectivity of migrants which means good individual level data on a range of characteristics, which will also allow examination of changes over the life course. Many of her other recommendations are already largely covered by much of the literature: motives for migration, information about the origin and the destination, patterns of migration and the character of social ties that facilitate moves.

Clearly the relationships between migration, poverty and the environment are key issues which preoccupy demographers and those interested in fisheries, because of their implications for human welfare, both of the migrants and the non-migrants populations in origin and destinations.

Motives for migration

As noted above most motives for migration can ultimately be traced back to economic factors. Migration is an attempt to improve an individual's or a household's economic position, either through increasing revenue, accessing new natural resources, increasing security through diversification and sometimes through decreasing the number of consumers in the place of origin (or reducing household dependency ratios). The last may be particularly important in areas where there are strong seasonal patterns of labour demand and production and for poor to very poor households (White 1986).

Ascertaining motives for migration can be done through two major pathways: asking people or collecting data on a range of individual, household and community level variables and analysing these to establish correlates of migration. The fishing literature has tended to go for the former strategy, the demographic for the latter: probably a combination of the two would ultimately be the most effective. In her research amongst Ghanaian fishermen in Côte d'Ivoire Delaunay (1991) notes that direct answers about motives for migration give rather superficial answers such as the desire for travel and need to leave families behind in order to make savings, whereas she believes the actual motives are much more complex.

Unlike the demographic events of birth and death, individuals have much more control over migration decisions and their potential to be enacted quickly and in response to immediate crises or events means that one might expect migration decision making and motives to be a conscious and well-articulated process. However, as pointed out by Curran (2002), Guilmoto (1997) and others, labour migration flows generally develop over time. At the beginning of a flow there are one or two innovative individuals who migrate, without the backup of networks in the destination and quite possibly without the support of kin at home. Such individuals are likely to be very different – with very particular characteristics of innovation or education. As the flow develops and networks evolve in destinations, with institutions for establishing new arrivals, finding employment and housing, the flows become much less selective and eventually migration may just become a totally accepted part of life – something that is not questioned. As Lambert puts it for a village in Senegal 'the place was imbued with mobility' (2002). Under these circumstances migration is no longer a conscious decision to take action – it is normative behaviour and it is non-migration which becomes the innovative decision.

Because the fishing migration literature rarely presents data and information on non-migrants and the selectivity of migrants it is never clear to what degree migration is the norm for everyone and to what degree it remains the innovative behaviour of a few. The general documented scale of migration does suggest that, for young men in most of the fishing communities who have a tradition of migration, such movements are part and parcel of normal economic life rather than a deliberated decision.

Economic motives

Economic motives for migration may range from escaping, avoiding or extricating oneself from poverty (see above), to pursuing daily economic activities or, for those who are already comfortable, to become richer. In terms of fishing migrations there appears to be an important distinction between internal and international migrations where the former generally follow mobile fish in the pursuit of normal economic activities. International migrations are rather different because clearly, although fish movements may determine some international migrations, other economic factors are also critical: exchange rates, costs of fuel and gear, the availability of markets, the potential for both men (as fishers) and women (as processors) to make a living (Delaunay 1991, Overa 2001).

According to Jallow (1997) there are three motives for migration all of which are economic: richer fish reserves, better markets and prices and access to cheaper fishing gear. For Bortei-Doku (1991) economic motives override all others and for the Popo in Congo 'Work abroad is mainly a means to realise wealth which can be transferred back to home community and converted into economic, political and religious projects there' (Jul-Larsen 1994).

There may be more personal economic motives for individuals. Several studies mention that young unmarried men like to migrate away from their home area because in that way they are freed from some of the financial obligations of living at home and can save money; this allows them to marry and may permit investment in fishing gear. In the Inner Niger Delta, in the past young men frequently just disappeared on migration without any negotiations or decisions taken at household level (Jul-Larsen & Kassibo 2001). Younger brothers had a particular incentive to leave in order to earn enough to pay for their own bridewealth rather than waiting in a subservient position for all older brothers to be married. Young men who want to be successful fishermen need to be able to invest in a canoe and thus accumulate savings.

According to Bortei-Doku (1995) amongst Ga-Dangme fisherfolk in Ghana, the best way to do this is to migrate outside one's own community and better still outside the country. It is not only the young who have the incentive to do this to avoid future poverty, the old encourage the young to migrate because of their stake in future prosperity. According to Jul-Larsen and Kassibo many of the out-migrants from the Inner Niger Delta in Mali dream of getting enough resources to leave the fisheries, preferring to work in trade, transport and commercial agriculture, but few achieve this. However this study is unusual in identifying such desire to leave the fishing sector.

Women have very strong economic motives to migrate with their husbands in environments where migrant women are able to process and market fish. Different migrations (and different fishing practices for different fish species) have varying implications for women's role in migration but for most of the Ghanaian migrant populations fish processing by wives is an important part of the whole economic

process, and in fact does much to maintain the men's ability to fish, through women's investment and credit provision (Delaunay 1991, Wyllie 1969, Overa 2000, 2001, Jul-Larsen 1994).

In the demographic literature remittances to the community of origin are major benefits of migration. Such remittances mean that the motivation to migrate is felt not just at an individual level but households and communities may put pressure on young men (and sometimes women) to migrate. The fishing literature is quite silent on remittances (with the exception of Jul-Larsen and Kassibo (2001) on outmigration from the Niger delta in Mali) and the general assumption seems to be that most of the profits of a fishing trip go to the individual and are his to invest or spend. The literature on the Popo community in Pointe Noire, Congo does discuss the issue of investment back home (Jul-Larsen 1994 a & b, Nguingiri 2000) in housing but the descriptions make it sound very much an individualistic enterprise.

Finding fish and lack of fish

The availability of fish could be subsumed under economic motives since fish are the source of wealth. However since the role of fish is clearly both a pull and push factor in these migrations it deserves separate consideration. Following the movements of fish is clearly important in much of the internal migration (Diop & Thiam 1991, Delaunay 1991, Wyllie 1969, Overa 2001, Herry 1994, Bortei-Doku 1991, Wagner 1991), although this may be changing over time. Wagner notes how, in Sierra Leone whereas movements of fish were the dominant motive for migration to Tombo up until the early 1980s, this has subsequently changed and the important factors by 1990 were to do with relative prices, markets and credit facilities. Mpandou (2004) makes the same observation for Popo in Congo. In fact few of the more recent studies mention fish movements as critical, and it may well be that given the necessity of migration to follow fish in the past (when canoe range and conservation technologies were much more limited), more recently people have just retained and built on the tradition of mobility and use this old strategy to achieve different economic benefits.

Personal Reasons

Odotei (1991) writing about Fante fishers in Ghana concurs with other researchers that economic gain is the main motive for migration, but she recognises that there may be other, more personal benefits – which may themselves have economic underpinnings: escaping family obligations, debts and other social problems or to obtain prestige and refinement. However she also recognises the role of social pressure and conformity in migration 'Some migrate because others have migrated' and she brings up the idea of a migration mentality (see quote at beginning of review).

4. Characteristics of migrants

It is generally accepted in demographic approaches to migration that migrants are socio-demographically different within their population of origin, at least in the earlier stages of a migratory flow (Curran 2002) and an essential part of most analyses involves identifying the ways in which they differ and why such characteristics are associated with migration. Standard variables on which data are routinely collected are age, sex, marital status, education, occupation and ethnicity. Not only do these allow a disaggregation of migration stocks and flows but they are essential in understanding how migration can transform the communities of origin and those of destination – by, for example, distorting the age-sex structure, removing the highly- skilled or the main labour force, causing a gender imbalance with repercussions for the marriage regime, and possibly sexual behaviour. Such data need to be collected on both migrants and non-migrants. This has rarely been done properly in the analyses of fishing migrations and thus there are substantial lacunae.

Men

In most migration regimes young men are the most mobile and the evidence available from the fishing literature suggests this is the case here. It is clear from some studies that there is considerable selectivity with respect to marital status with migrating fishermen being dominated by unmarried men and frequently one aim of fishing migration is to obtain enough money either to be able to marry and settle down, or, to retire comfortably in the home community. However few data are available to show the proportions of men who achieve this, or at what ages (if ever) they stop migrating or stop fishing. Nothing is ever mentioned about non-migrating men in normally migrant communities.

Women

With a few notable exceptions we know few details about the women of migrating fishing populations. In some cases it is made clear that some women migrate with their husbands in order to process and market the fish (Nguingiri 2000, Wyllie 1969, Jul-Larsen 1994, Odetei 1991, Bortei-Doku 1985) and that they are a critical part of the success of the fishing migration campaign. Actual numbers of women are rarely provided, although Jul-Larsen (1994) writing on the Popo fishermen in Congo demonstrates clearly the evolution of the population of women over time from being a tiny minority to nearly equal numbers with the men. However even when women do migrate they rarely all migrate and many are left behind – in the Popo community in Congo many of the men had wives in Benin. Little is known about what happens to these women in their home population, nor what criteria determine whether a woman goes or stays. No age structures (or marital status distributions) are ever provided for migrant women or those who remain behind. In many communities of origin the wives of migrants may experience substantial economic difficulties (David 1995) and also be unable to take important decisions. On the other hand they may be better off without the men. It is true that in many fishing communities women are economically independent fish processors, able to invest in canoes and fishing gear, but presumably this does not apply to all women.

Given that it is also clear that a substantial number of migrant fishermen are unmarried, either there must be high levels of polygamy (confirmed only in the Senegalese villages; Gueye 1998), female outmigration to different areas, or substantial numbers of unmarried women. In Ghana, Bortei-Doku (1995) notes that among Ga-Dangme fisherfolk both men and women become involved in fishing and related activities as a matter of course and, because of lack of skills and other employment locally, continue these activities, although women are more occupationally versatile than men. Women may make up to about 25% migrant labour and that their ability to process fish in the destination varies according to local traditions and the occupations of the women there. Apparently men are less keen for women to accompany them on migration because they are expensive.

In most rural west African communities marriage remains the normal state for women of reproductive age. Thus one would expect that married women are the most economically secure because they have income and labour provided by their husband, and usually have children (an essential attribute for most West African women).

Women with absent husbands or unmarried women are generally economically less secure, although this might not be the case for successful traders or for women from some of the matrilineal fishing communities along the Ghanaian coast. One of the few examples where we are given a picture of the evolution of migrants' marital lives over time comes from the Inner delta, Mali (Kassibo 2000). Migrants return home with resources to marry and eventually the wives join them in their destination. However although this might seem like definitive migration, often wives return to give birth and may send some of the children back to be raised in the home community – thus consolidating a range of ties between migrant and home community.

Odetei (1991) writing on matrilineal fishing communities in Ghana notes the dilemmas that women face – they want to be economically independent but they also have roles as mothers and wives – if they move to join their migrant husbands they have to adopt an unfamiliar residential arrangement of living together.

In examining the integration of labour migrants into destinations, marriage is an significant indication that male migrants have integrated into their host community. Where there are long term migrations and most men are either unmarried or separated from their wives, local marriage may be one way for the man to assure his own welfare (through acquiring shelter, food and sex). However the general picture is that men on fishing migrations do not generally marry local women (Atti-Mama 1991), although Bortei-Doku, in writing about Ghanaian migrations, says that although canoe owners prefer unmarried men they have to take a few women from home as housekeepers because otherwise they have to 'marry local women' – a situation which sounds disadvantageous for all the women concerned: those left behind, those taken along and any susceptible local woman. The Popo in Congo may marry local women but rarely do (Jul-Larsen 1994).

Thus overall the picture of women in migrating fishing populations is very patchy. We know that some are very important economically and are involved in migrations but we know little about their conditions, which ones go, who stays and the consequences. In Senegal it seems that women's economic roles as processors has declined significantly in recent years (Barry-Gerard et al 1993) and this decline has probably accelerated with the changing preferences from fish for local consumption to higher value fish for export. We also know little or nothing about their roles as mothers.

In terms of their welfare there are several issues which are not touched upon but may have serious implications for women's current and future prospects. Children remain women's main source of security in West Africa, especially in old age, and no-one mentions the impact of significant spousal separation on childbearing and fertility.

Secondly there are substantial numbers of men moving around the coast without their wives (or unmarried) and for long periods of time. The demographic literature has established that migrants often engage in risky sexual behaviour, partly because they are absent from the social controls of traditional rural home communities but also because they desire sexual partners. It is hard to envisage such large numbers of mobile men remaining celibate (but see Coast 2005) and thus there are implications for their own sexual health and the sexual health and well-being of women in the destination communities.

Children

If there is little mention of women in the fishing migration literature the children are almost totally invisible. Even if women accompany their husbands on migration it is rarely made clear what happens to the children. Do they migrate? Are they left behind? What are the issues for their welfare in the temporary migrant camps – frequently described as squalid and poor? What are the prospects for their welfare if left behind?

Bortei-Doku (1995) mentions that among Ga-Dangma fishing communities boys and girls are recruited into apprenticeships whilst still very young so they receive little education, and Jul-Larsen (1994) indicates that children of Popo migrants in Congo may be sent back to Benin for schooling – although it is not clear whether this is primary or secondary, and whether it is boys and girls. Basically nothing is written about the children of these migrant fishers, who must either be migrants themselves, or spend much of their time in single parent or foster households. We know nothing about education patterns and levels, mortality, nutritional status or any of the other indices of general well-being. We don't even know where they are.

Identity and ethnicity

Identifying migrants, migrant communities and even fisherfolk is not necessarily a straightforward process especially if using demographic data sets that have been collected for other purposes. Occupational data may identify people who are

currently working as fishermen, but will rarely identify associated people as fisherfolk, unless they are fish processors. The elderly and children may be very much part of a fishing community but can only be identified as such in a carefully designed study.

One way of identifying whole fishing populations might be through using ethnicity or mother tongue data – variables which are often collected in censuses. For example, in Mali, most people who call themselves Bozo originate from fishing communities, although some may be two or three generations from active fishing as a lifestyle. But just selecting people who identify themselves as mother tongue Bozo speakers in the census will only give a very rough idea of people working in fishing.

There is quite a substantial amount of evidence that people deliberately manipulate their ethnicity in order to access particular resources or to make themselves seem qualified for an occupation. Malians in Côte d'Ivoire who fish call themselves Bozo although according to Chauveau and Jul-Larsen (2000) probably only about 5% are genuinely Bozo. Conversely labels are attached to people because those labels are seen to be the appropriate ones given a person's nationality and occupation as shown by Bouju in Guinea (2000).

Chauveau and Jul-Larsen rather debunk the idea of ethnic specialisation in fishing in the contemporary world – because many of the fishermen who now specialise in long-distance migrations have very heterogeneous origins, giving as an example the SulBaabe of Senegal who originally came to grow peanuts and then turned to fishing and now have a good reputation as fishers. They point out several paradoxes in identity generated by the multiple migrations – such that some fishing groups who may be considered mediocre in their area of origin become specialists when they migrate and that some groups which have a reputation as being fishing specialists in fact may undertake a whole range of other activities, both connected with fishing and completely unrelated. For them fishermen are a very diverse and flexible group who will undertake a whole range of different activities. Thus 'to meet a fisher today does not mean he was one last year nor that his father or grandfather were fishers' although in contrast Bortei-Doku (1995) implies that in the Ga Dangme groups she studied fishing was the only real occupational option.

Comparisons were made earlier in this review with pastoralists and pastoralist migrations. The similarities between the two groups breaks down somewhat when one considers the stability of occupation over time. Whereas it is relatively easy for someone to migrate into a fishing community and take up work within the fishing industry, the same is not true of pastoralism. Not only are the skills of herd management something that need to be learnt over a lifetime, but there is little opportunity for unskilled manual labour and it is extremely difficult to build up a herd from nothing. Thus whereas numerous people fall out of the pastoralist production system through crisis and herd loss, very few people join it. The same is not true of fishing or of fishing migrations.

5. Conclusions

The diversity and wealth of the both the fishing literature covering migrant fishers in West Africa and the demographic literature on migration means that this review has only been able to touch on some of the important themes. I have tried to focus on differences in the approach to studying migration between the two bodies of literature in order that appropriate practical lessons might be learnt in terms of designing future studies and thinking about relevant research and policy questions.

Whereas demography developed studies of migration through quantitative research, with large sample sizes and measures of flows and stocks of migration across different administrative areas, it is now moving towards trying to understand some of the ramifications of migration and towards understanding how migrants negotiate their way in new environments and juggle their lives between two communities.

In contrast the fishing migration literature is very rich in describing and analysing the institutions which allow migrants to exploit new environments and manage relationships and natural resources with little recourse to conflict, and clear on understanding the historical, ecological, political and technological processes and changes which influence migration flows, patterns of migration and destinations over time and space and demographers could learn much from them.

However it seems that there are many gaps in the fishery migration understanding – gaps which may be difficult to plug because of the complexity and fluidity of the various systems of fishery migrations in West Africa which, over the whole section of the continent and over time certainly resembles the notion of Brownian motion coined by Jorion. Studies of the demography of these migrations will be unable to depend on conventional demographic surveys or routinely collected statistics: the complexity, diversity and problems in using standard categorisations of migration mean that any studies will have to be purposefully designed and focused on key communities. The complexities of the migration circuits and the instability over time will mean that it will be very difficult to extrapolate conclusions from one community to another.

However it is clear that it is essential to study both communities of origin and communities of destination – since the migrants and the non-migrants in each are likely to have very different demographic profiles, behaviours and problems. Restricting a study to communities of origin would allow some data to be collected on out-migrants IF they were still considered a member of a household there and thus had someone to report on them. However if complete households migrate either temporarily or permanently then they would be missed. Data would be readily available on recent circular migrations where the migrants had returned and they, and their families could be compared to non migrants.

However the full picture would need to include communities of destination – which would include short term temporary migrants, longer term (possibly permanent

migrants) and the receiving population – who might themselves participate in migrations elsewhere.

Individual level data must be collected for both migrants and non-migrants covering a range of socio-demographic characteristics. It is also essential that data are collected from communities which send and those which receive migrants and that very clear definitions of migration and movement are established and tested beforehand. Only such comprehensive data would be effective in analysing the demography of fishing migrations and contributing to the identification of vulnerable subgroups, beneficiaries and losers in the whole migration process. It is also essential that such a survey is able to identify those who migrate into fishing from non-fishing communities. It is unlikely that such a purpose-designed survey could effectively study out-migration from fishing communities, and any study will be limited in its ability to capture the diversity of fishing migration regimes.

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Appendix 1: Searches made to obtain literature

All searches were made on the following categories:

Migration AND Fish* AND West Africa: This produced only a handful of documents

Migration AND West Africa

Migration AND [each country in West Africa specified by name: coastal countries from

Mauritania around to Angola, and Mali, Burkina Faso, Niger and Chad]

Fish* AND migr*

Fish* AND Africa (many references but mainly on East African and disease)

In databases:

POPLINE database – abstracts only looked at from 1991 onwards

JSTOR journals search in Anthropology, Geography, Population Studies and Sociology

In university libraries:

University College Library

SOAS Library

Cambridge University Library

London School of Hygiene & Tropical Medicine Library

Further searches were made on e-libraries using categories

Anthropology on Disk 2004 (goes back to early 1980s)

Migration AND fish*

1 article

Migration AND West Africa

26 articles mainly old and not relevant

Medline 1996-2000

Migration AND fish* and Africa 1 relevant article I already had

Journals:

International Journal of Population Geography / Population, Space and Place

Migration AND fish* AND Africa 0 articles

Migration AND Africa

11 articles mainly irrelevant

International Migration

Migration AND fish* AND Africa 0 articles

Migration AND Africa

nothing relevant

Balckwell journals in Social and Behavioural Sciences and Geography

Web based searches were made using Google for:

Migration AND fishing AND

Manantali/ Selingue / Kossou / Lake Volta / Lake Chad

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This paper was commissioned by SFLP as one of the inputs into the formulation of programme activities

and policy briefings on a series of issues linking fisheries governance with wider social and economic development concerns. The purpose of these reviews was to complement SFLP field experience with review of relevant global literature and to draw on experiences from other projects and programmes around the world.

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